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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/728,985	12/08/2003	Kia Silverbrook	ZG116US	1103
24011	7590	09/23/2005		
SILVERBROOK RESEARCH PTY LTD 393 DARLING STREET BALMAIN, 2041 AUSTRALIA			EXAMINER MITCHELL, JAMES M	
			ART UNIT	PAPER NUMBER
			2813	

DATE MAILED: 09/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/728,985	Applicant(s) SILVERBROOK, KIA	
	Examiner James M. Mitchell	Art Unit 2813	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 July 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>7/8/2005</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This office action is in response to applicant's amendment filed July 8, 2005.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-6 and 19 rejected under 35 U.S.C. 102(e) as being anticipated by Salatino (U.S. 5, 798,557).

4. Salatino (Fig.1-3, 5) discloses:

(cl.1) a tool (261 & i.e. wafer, 200 support), the tool comprising: a first tool half made from a semiconductor that has a coefficient of thermal expansion which is about the same as that of the wafer (Col. 5, Lines 55-56); the first tool half having surface features¹;

(cl. 2, 4) wherein the first tool half is made from silicon (Col. 5, Lines 55-56);

(cl. 3) and the first tool half inherently cooperates with a second half, the first tool half and the second half together forming a mold (i.e. substrate formed on some type of temporary holder or chuck to cooperates with first tool, 261 to place caps on wafer);

¹ The surface itself is capable of being adapted for molding etc. and for subsequently retaining an array of caps. In addition, applicant attempts coverage of what amounts to functional limitations without

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(cl. 5) the features of the first tool half have a spacing which corresponds to a spacing of the wafer (i.e. space of cap, and space between tool and support, not shown; Fig. 5).

5. With respect to the intended use limitations of claims 1, for example, “used to hold an array of wafer scale protective caps...” “for molding, ” and “...for an array,” the prior art structure satisfies the claimed structural limitation. As such, the claimed limitation does not distinguish over the prior art, since it has been held that the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. *Ex parte Masham*, 2 USPQ2d 1647 (1987).

6. With respect to the process limitation of claims 6 and 19, such as “etching” or “lithography,” the claimed product is the same as product of the prior art. “[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process.” *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985).

7. With respect to the limitation of claim 1, that caps molded, see footnote².

Claim Rejections - 35 USC § 103

expressing his claim as a means plus function, as required statutorily. See 35 USC 112 (6). As such, the functional limitation does not impart patentability absent a recital of specific structural features.

² “caps being molded...” does not impart a structural feature of the product, but rather it further limits a structure that has failed to be affirmatively claimed. As such, the product of claim 1 requires only the tool.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miyajima (U.S. 6,350,113) in combination with Cordes et al. (U.S. 6,390,439).

10. Miyajima (Fig. 11, 12, 15, 30) discloses:

(cl. 1, also 15 [incl. Lim. 1-12]) a tool (22a, b), the tool comprising: a first tool half; the first tool half having surface features¹;

(cl. 3) and the first tool half cooperates with a second half, the first tool half (20a) and the second half (20b) together forming a mold;

(cl. 5) the features of the first tool half have a spacing that corresponds to a spacing of the wafer (i.e. cavity, 28);

(cl. 7) wherein the first tool half has a lower surface in which recesses (28) are formed; the second half having an upper surface in which grooves are formed (28); the recesses and grooves defining the mold cavities (Fig. 30);

(cl. 8, 9) the first tool half includes first eject holes (i.e. space taken by item 42) formed through it; the holes located in registry with the surface features there being provided a first half release wafer (50) from which projects a number of pins (not labeled); the pins located in registry with the first holes (i.e. in left and right portions of 20a & 42); the first

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tool half having a thickness in the area of the first holes, the pins being longer than the thickness;

(cl. 12) and second holes (i.e. cavity, 28) in registry with grooves (28) formed in upper portion;

(cl. 10, 11) the first half release wafer (50) has a first position in which the pins are flush with an interior end of the first holes; there being a gap (i.e. space in hole between release and first half) between the first half and the first half release wafer when the first half release wafer is in the first position.

(cl. 17) with material squeezed between first and second portions ("resin molding"; Title)

(cl 18) and thin layer (50) is between first and second portions (Fig. 30);

(cl. 20) a second mold half having an upper surface in which grooves are formed;

the surface features of the first tool half and grooves defining the mold cavities (Fig, 30).

12. With respect to the intended use limitations of claims 1, for example, "used to hold an array of wafer scale protective caps..." and "...for an array" and "for the caps," the prior art structure satisfies the claimed structural limitation. As such, the claimed limitation does not distinguish over the prior art, since it has been held that the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. *Ex parte Masham*, 2 USPQ2d 1647 (1987).

13. With respect to the process limitation of claims 6 and 19, such as "etching" or "lithography," the claimed product is the same as product of the prior art. "[E]ven though product-by-process claims are limited by and defined by the process, determination of

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patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process.” *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985).

14. Miyajima does not appear to disclose material for its mold/die being a semiconductor having about the same CTE as a wafer, such as silicon, which is transparent to UV about 1000-5000nm.

15. However Cordes utilizes a mold/die (“plate”) that is a semiconductor such as silicon and that has the same CTE as a wafer (Col. 10, Lines 39-42).

16. It would have been obvious to one of ordinary skill in the art to form the mold of Miyajima with silicon, which is transparent to UV about 1000-5000nm in order to eliminate shifting as taught by Cordes (Col. 10, Lines 39-42).

17. Furthermore, it has been held that to be within the general skill of a worker in the art to select known material on the basis of its suitability for intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416 (CCPA 1960).

18. Claims 1-4 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshihara et al. (U.S. 5,824,177) in combination with Cordes et al. (U.S. 6,390,439).

19. Yoshihara (Fig. 3A-E) discloses:

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(cl.1) a tool (5, 6), the tool comprising: the first tool half having surface features (i.e. both flat and recess surfaces) for molding;

(cl.3) with the first tool cooperating with the second tool (5,6) forming a mold.

20. Yoshihara does not disclose the first tool is made from a UV transparent, silicon, semiconductor that has a coefficient of thermal expansion which is about the same as that of the wafer.

21. Cordes utilizes a tool made from silicon, semiconductor that has a coefficient of thermal expansion, which is about the same as that of the wafer (Col. 5, Lines 55-56).

22. It would have been obvious to one of ordinary skill in the art to form the mold/tool of Yoshihara with silicon, which is transparent to UV about 1000-5000nm in order to eliminate shifting as taught by Cordes (Col. 10, Lines 39-42).

23. Furthermore, see paragraph 17 of this office action.

Response to Arguments

24. Applicant's arguments filed July 8, 2005 have been fully considered but they are not persuasive.

25. In regards to Salatino's rejection of claims 2-6 and 19 applicant contends that his invention is patentable over the prior art, because the prior art fails to disclose surface features with recesses. Examiner is unpersuaded, since there is no claimed recitation of recesses in claims 2-6 and 19. As for the applicants disclosed use of recesses in his specification to achieve the function of molding caps and subsequently retaining the array, see footnote 1.

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26. Lastly applicant contends that his claimed invention is patentable over the combination of Miyajima and Cordes, because Miyajima fails to disclose its surface features *used* for molding and then retaining an array, and that Cordes fails to make up the deficiency. Examiner disagrees. Applicant claims a product, as such; it is the structure that imparts patentability, not the method or the subsequent uses of the product. See paragraph 12 of this office action and footnote 1. As such, examiner is unpersuaded by applicant's arguments, and the previous rejection deemed proper.

Conclusion

27. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The prior art in Glenn (U.S. 6,483,030) shows forming caps through the cooperation of a first and second tool with recess features in both the first and second mold.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James M. Mitchell whose telephone number is (571) 272-1931. The examiner can normally be reached on M-F 8:00-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carl Whitehead Jr. can be reached on (571) 272-1702. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jmm
September 15, 2005

LAURA M. SCHILLINGER
PRIMARY EXAMINER